



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

U.S. Patent

Application of: T. OHTA et al.

Serial Number : 10/769,389

Filed : January 30, 2004

For : LIGHT SENSITIVE COMPOSITION AND LIGHT  
SENSITIVE PLANOGRAPHIC PRINTING PLATE MATERIAL

Group Art Unit: 1752

Examiner : Amanda C Walke

DECLARATION UNDER 37 C.F.R. 1.132

Hon. Commissioner of Patents

and Trademarks

Washington, D.C. 20231

Sir:

I, TAKAAKI KUROKI, hereby declare and say as follows:

That I am a graduate from Chiba University having been awarded a Bachelors Degree in Technology in March of 1992.

That since April of 1992, I have been employed by Konica Corporation (present Konica Minolta Medical & Graphic, Inc.), the owner of the above-identified application. During my employment, I have been engaged in the research and the study of planographic printing plates in the Research and Development Laboratory of my company.

That I am a co-inventor of the present application.

That I am familiar with the subject matter of the present invention.

What follows is an accurate summary of experiments conducted according to my detailed instructions and under my personal supervision, and the results obtained therefrom.

#### Comparative tests

1) Claims 6 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kunida.

The Examiner states in paragraph 4 of the outstanding Office Action, "Kunida has been discussed above, and while the reference teaches that iron-arene compounds may be employed in combination with other photoinitiators listed, the reference does not use such a compound in a preferred embodiment. However, given the teachings of the reference, it would have been obvious to one of ordinary skill in the art to prepare the material of Kunida choosing to employ an iron-arene compound, with reasonable expectation of achieving a material having high sensitivity." Kunida simply discloses preferred halogen-containing photoinitiators such as (a) aromatic ketones, (b) aromatic onium salts, (c) organic peroxides, (d) thio compounds, (e) hexaarylbiimidazole compounds, (f) borate compounds, (g) metallocene compounds, and (h) compounds having a carbon-halogen association, each containing a halogen atom (see page 2, column 2, pars. [0007] and [0008]), and further discloses on page 20, column 37, par. [0104] that more preferred photoinitiators are compounds (b), (e), (g), and (h) above, and most preferred photoinitiators are compounds (e) and (h) above, and that these photoinitiators may be used singly or in combination. Kunida discloses, in the preferred embodiment, only a single use of the Kunida halogen-

containing photoinitiators above, not a combination use thereof. That is, Kunida does not disclose that any combination of Kunida photoinitiators is preferred, much less that a specific combination as claimed of formula (1) compound and an iron-arene compound is preferred.

A person of ordinary skill would have to make a large number of selections among various combination possibilities of the initiators in order to arrive at the present invention. There is, however, no incentive in Kunida to arrive at a specific combination of the instant formula 1 compound and an iron-arene compound. Further, Kunida does not disclose the unexpected results of the invention that the combination provides high printing durability, and excellent small dot reproduction.

2) In order to demonstrate the unexpected results of the invention, comparative test was carried out, based on Example 3 of Kunida which employed Compound X-3, meeting the limitations of the instant formula 1, and which was considered to be the closest prior art.

3) Light sensitive planographic printing plate material sample C-1 was prepared in the same manner as in Example 3 of Kunida. Light sensitive planographic printing plate material sample C-1 comprised Compound X-3 meeting the limitations of the instant formula 1 (hereinafter also referred to as instant formula 1 compound) as shown in Table I (Initiator 1).

Light sensitive planographic printing plate material sample C-2 was prepared in the same manner as in Light sensitive planographic printing plate material sample C-1 above, except that 2.0 g of Compound I-3, iron-arene compound used in Sample Nos. 21 through 25 in Example 1 of

the present Specification, was used instead of 2.0 g of Compound X-3. Light sensitive planographic printing plate material sample C-2 comprised iron-arene compound as shown in Table I (Initiator 2).

Light sensitive planographic printing plate material sample I-1 was prepared in the same manner as in Light sensitive planographic printing plate material sample C-1 above, except that 1.0 g of Compound X-3 and 1.0 g of Compound I-3 were used instead of 2.0 g of Compound X-3. Light sensitive planographic printing plate material sample I-1 comprised both Compound X-3 (instant formula 1 compound) and Compound I-3 (iron-arene compound) as shown in Table I.

4) Printing durability, and small dot reproduction of the resulting light sensitive planographic printing plate material samples were evaluated in the same manner as in Example 1 of the present Specification.

The results are shown in Table I.

Table I

Sample No.	Initiator 1 used (g)	Initiator 2 used (g)	Printing durability (Sheet number)	Small dot reproduction (%)	Re-marks
C-1	*X-3 of Kunida (0.2 g)	None	70,000	5	Comp.
C-2	None	**I-3 (0.2 g)	40,000	7	Comp.
I-1	X-3 of Kunida (0.1 g)	I-3 (0.1 g)	210,000	3	Inv.

Comp.: Comparative, Inv.: Inventive

\*X-3: Initiator corresponding to Compound H-1 in the invention

\*\*I-3: Iron-arene compound used in Sample Nos. 21 through 25 in Example 1 of the present Specification

As is apparent from Table I above, the inventive sample I-1 provides high printing durability, and excellent small dot reproduction, as compared with comparative samples C-1 and C-2. Particularly, the inventive sample I-1 exhibits synergetic effect in printing durability. The results are unexpected to one of ordinary skill in the art. In view of the above, it would not have been obvious to one of ordinary skill in the art to attain the invention over Kunida.

Accordingly, I believe that instant claim 1, and all the claims, which depend therefrom, are in a situation of allowability.

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001, of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Dated: June 15, 2005

Takaaki Kuroki  
TAKAAKI KUROKI